

O.Z. 6294-WO

11

Claims:

1. A process for preparing a silicon compound bearing at least one fluoroalkyl group by hydrosilylation of a fluoroolefin in the presence of a Pt-containing hydrosilylation catalyst, which comprises
 - initially charging and heating a hydrogenchlorosilane,
 - then metering in the fluoroolefin and reacting the reaction mixture
 - and subsequently isolating the hydrosilylation product.
2. The process as claimed in claim 1, wherein,
 - (i) a hydrogenchlorosilane is initially charged, heated, the hydrosilylation catalyst dissolved in an inert solvent is added and the fluoroolefin is then metered in or
 - (ii) a hydrogenchlorosilane is initially charged, heated and a mixture of fluoroolefin, hydrosilylation catalyst and optionally solvent is metered in or
 - (iii) a mixture of hydrogenchlorosilane and the hydrosilylation catalyst dissolved in a solvent are initially charged, heated and the fluoroolefin is metered in.
3. The process as claimed in claim 1 or 2, wherein the initially charged hydrogenchlorosilane or the initially charged hydrogenchlorosilane-containing mixture is heated to a temperature in the range from 85 to 120 °C.
4. The process as claimed in claim 1 or 2, wherein hydrogenchlorosilane and fluoroolefin are used in a molar ratio of from 3:1 to 0.5:1.
5. The process as claimed in at least one of claims 1 to 4, wherein a hydrosilylation catalyst based on hexachloroplatinic acid or Pt(0) complex is used.
6. The process as claimed in at least one of claims 1 to 5, wherein toluene or xylene is used as inert solvent.

O.Z. 6294-WO

12

7. The process as claimed in at least one of claims 1 to 6, wherein the catalyst is used in a molar ratio of Pt to hydrogenchlorosilane of from 1:100 000 to 1:100.
8. The process as claimed in at least one of claims 1 to 7, wherein at least one
5 hydrogenchlorosilane of the formula (I)

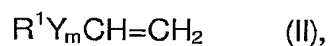


10 where the groups R are identical or different and R is a linear, branched or cyclic alkyl group having from 1 to 20 carbon atoms or an aryl group, X is Cl or Br and a = 0, 1, 2 or 3 and b = 0, 1, 2 or 3 and 1 = (a+b) = 3,

is used.

- 15 9. The process as claimed in any of claims 1 to 8, wherein a fluoroolefin of defined purity is used.
10. The process as claimed in any of claims 1 to 9, wherein a fluoroolefin having an iodine content of less than 150 ppm by weight is used.
- 20 11. The process as claimed in any of claims 1 to 10, wherein a fluoroolefin having a diene content of less than 100 ppm by weight is used.
12. The process as claimed in any of claims 1 to 11, wherein a fluoroolefin having a
25 water content of less than 100 ppm by weight is used.
13. The process as claimed in any of claims 1 to 12, wherein at least one fluoroolefin of the formula II

30



O.Z. 6294-WO

13

where R¹ is a monofluorinated, oligofluorinated or perfluorinated alkyl group having from 1 to 12 carbon atoms or a perfluorinated aryl group, Y is a -CH₂-, -O-, -O-CH₂-, -S- group and m is 0 or 1,

5

is used.

14. The process as claimed in any of claims 1 to 13, wherein a fluoroolefin selected from the group consisting of 3,3,3-trifluoro-1-propene, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctene, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-tridecafluorodecene, 1,1,2,2-tetrafluoroethyl allyl ether, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorooctene, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-hencosafluorooctene and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,-14,14,14-pentacosafuorooctene is used.

15

15. The process as claimed in any of claims 1 to 14, wherein the fluoroolefin is added to the initially charged hydrogenchlorosilane as set forth in (i) or (ii) or (iii) at a pressure of from 1 to 15 bar abs.
- 20 16. The process as claimed in any of claims 1 to 15, wherein the fluoroolefin is metered in at a rate of from 50 to 300 l/h, based on 1 t of chlorosilane.
17. The process as claimed in any of claims 1 to 16, wherein the reaction is carried out at a temperature in the range from 85 to 120°C and a pressure of from 1.5 to 25 50 bar abs. for a period of from 4 to 20 hours.
18. The process as claimed in any of claims 1 to 17, wherein the hydrosilylation product is isolated from the product mixture by distillation and is subsequently esterified with an alcohol, where the alcohol is used in an excess of from 0.1 to 30 10% and the alcohol used is denatured with ≤ 1% by weight of methyl ethyl ketone

O.Z. 6294-WO

or petroleum ether.

19. The process as claimed in any of claims 1 to 18 carried out batchwise in a stirred tank reactor.